CHAPTER 4
Space Planning Concepts

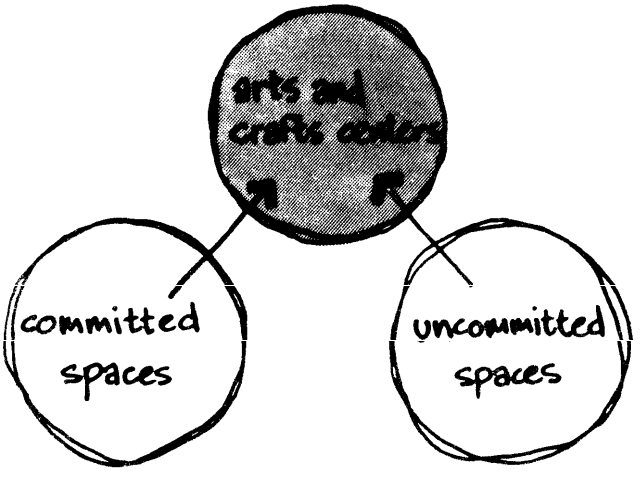
4-1 Conceptual Diagrams

a. Space planning involves arranging the elements of a plan in response to the functional requirements of the programmed activities. The interrelationships of the activities themselves are the most variable factors in the interpretation of the program. Planning, however, must take into account the probability that future space requirements will change because of program modifications.

b. Most buildings incorporate two types of spaces: committed and uncommitted. Committed spaces are those that are designed or used for only a particular activity because of specific requirements or spatial configuration. Committed space is difficult to adapt to new uses. On the other hand uncommitted spaces have an amorphous character, allowing them to be used for many unspecialized functions; it allows multiple use and flexibility for change.

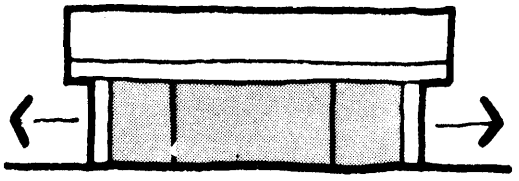
c. Arts and crafts activities require both types of spaces. Part of the planning process is to identify and, where possible, consolidate those non-conflicting spaces which have similar environmental requirements, while separating those conflicting ones.

d. The conceptual diagrams that follow illustrate design concepts for the building as a whole responding to differing climatic conditions, site constraints, and space use requirements.

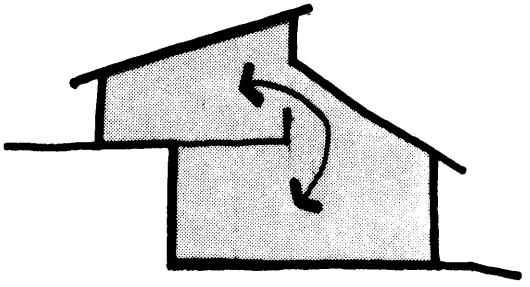


Space Types

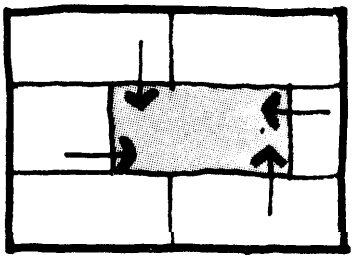
Diagrams



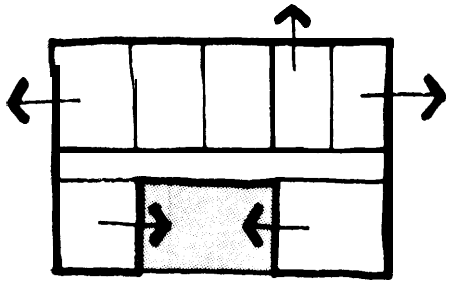
(1) *Horizontal* design concept best suits an unrestricted level site, with direct indoor-outdoor access and flow between activities. Initial construction cost is lower and expansion can occur more readily.



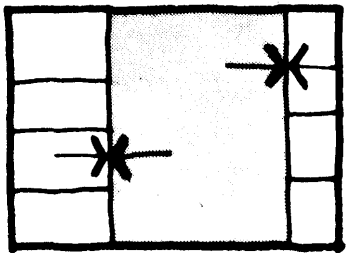
(2) *Vertical* design concept may be required to meet site or terrain restrictions but care is required for vertical continuity and communication.



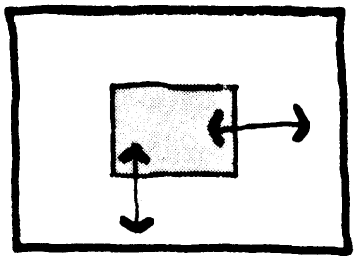
(3) *Inner-Directed* design concept shuns severe climate or surroundings with functional areas oriented around a central focus such as a courtyard used as an exterior work area.



(4) *Outer-Directed* design concept takes maximum advantage of surrounding amenities, particularly in mild climates. Functional areas may be oriented around exterior work areas.



(5) *Shared Space* design concept maximizes the use of uncommitted space to allow multiple use and flexibility for change. There is free circulation and activity mix, with compatible activities grouped together and conflicting ones separated; i.e., clean vs. dirty and quiet vs. noisy. The use of committed space for visual and acoustic separation is held to the minimum necessary.



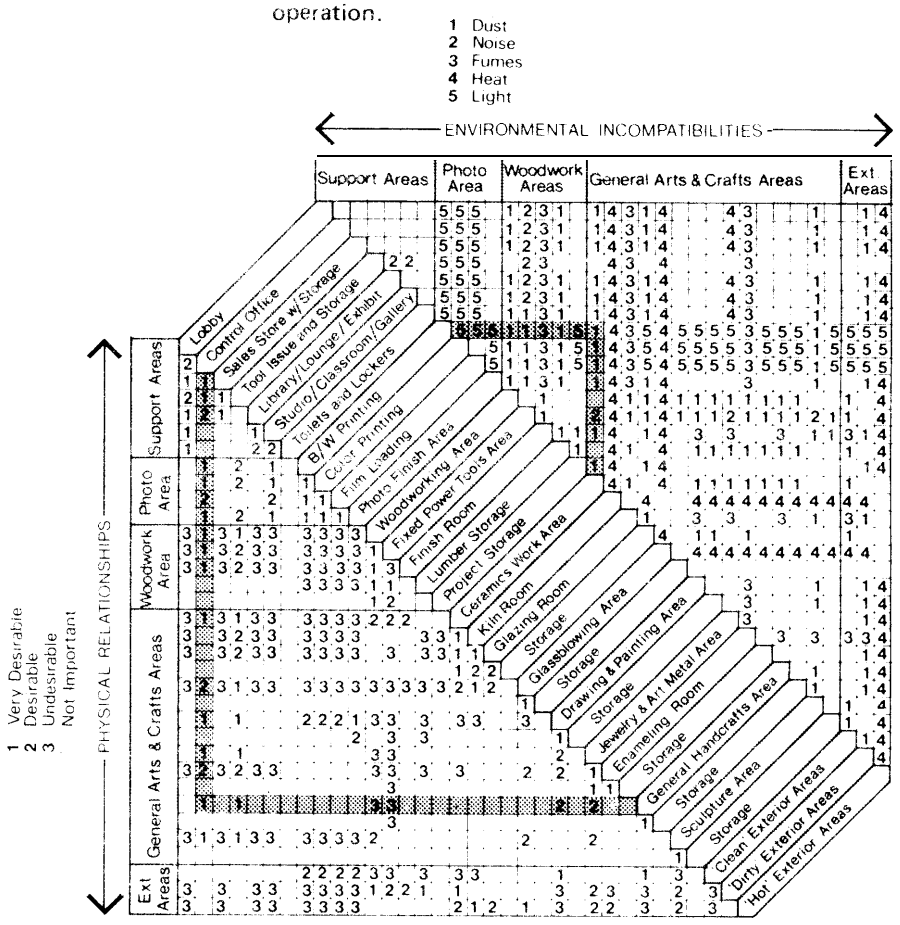
(6) *Central Core* design concept develops a central focus with functional areas oriented around support facilities.

4-2 Affinity Matrix

a. In designing any facility there are many relationships and interrelationships between activities which must be considered so that the most functional plan can be developed. One means of graphically describing these relationships is with an affinity matrix.

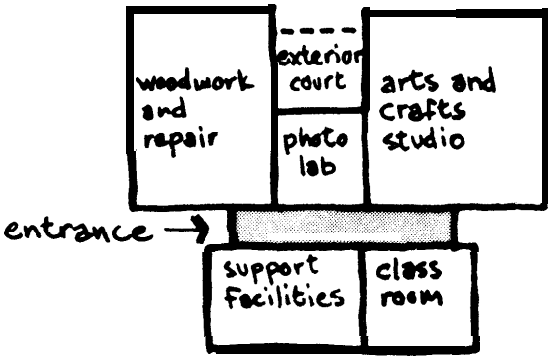
b. The matrix shown on this page charts two types of relationships which must be considered when designing an Arts and Crafts Center, The first is physical relationships which shows whether it is desirable or not to have one area immediately adjacent to another. By assigning values to the desirability, an evaluation can be made and recorded. As an example, one relationship is shown by a shaded line. By looking at this example, we can see that it is very desirable to have the Control Office adjacent to the General Handicrafts Area so that it can be supervised.

c. The second relationship shown on this matrix is environmental incompatibilities where the effects of the operation of one activity is incompatible with another. The example shown indicates that it is incompatible to have the Black and White Photographic Lab adjacent to the Ceramics Area due to the dust created by the ceramics operation.

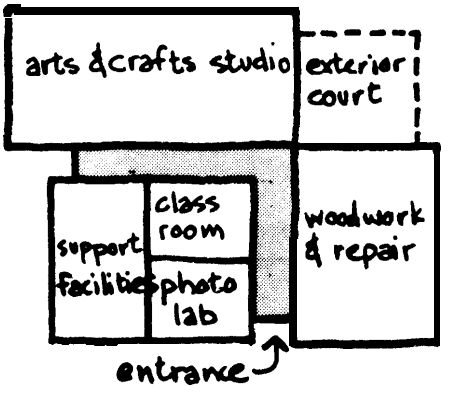


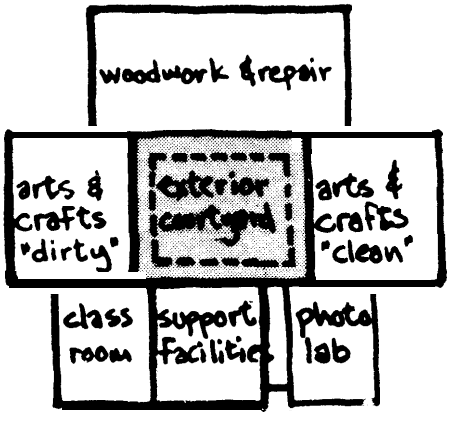
4-3 Functional Layouts

a. The following functional layouts indicate various alternatives' for the arrangement of the major areas of an Arts and Crafts Center. The layouts generally respond to the broad physical relationships and environmental incompatabilities shown in the Affinity Matrix.

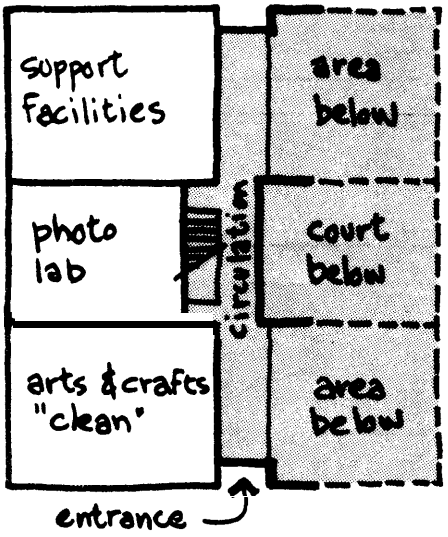


b. Layouts utilizing the *horizontal* and *outer-directed* design concepts. The two layouts shown have alternative entrance locations which may result from differing site constraints or opportunities. These layouts show separation of the four major elements of the Arts and Crafts Center.

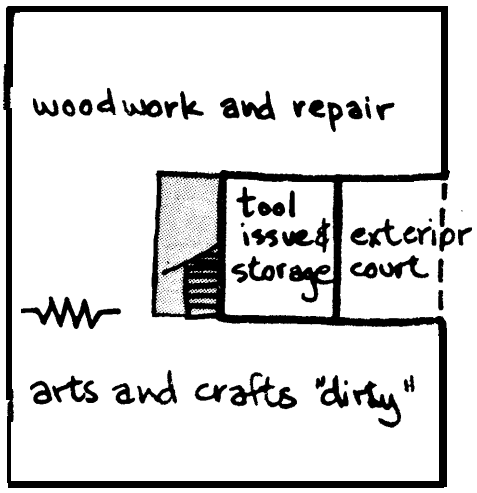




c. Layout utilizing the *horizontal* and *inner-directed* design concepts. The work areas focus on a central courtyard which can be used as an outdoor work area where weather dictates the need for shelter and protection.



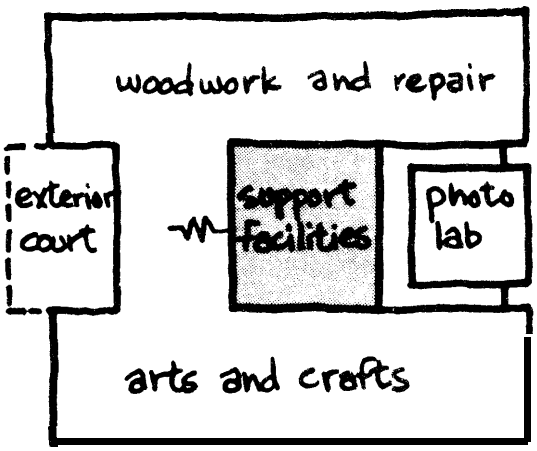
upper level



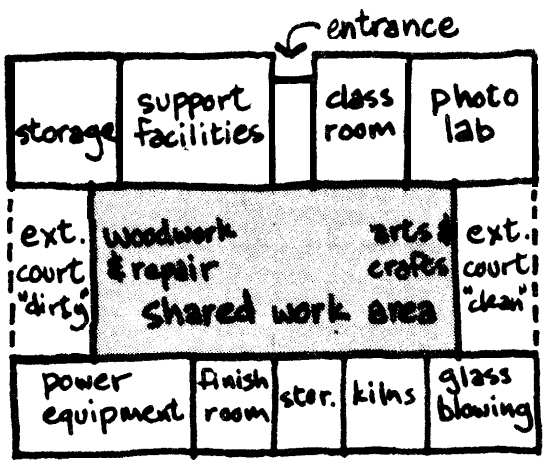
lower level

cross section

d. Layout utilizing the *vertical* and *outer-directed* design concepts. Due to the nature of some sites, this layout may have to be used in order to best meet the natural terrain of the land. This could form an exciting building visually but care must be taken to make sure it will function properly.



d. Layout utilizing the *central core* and *outer-directed* design concepts. The layout shows work areas oriented around centralized support facilities. This layout permits good visual control over all areas including circulation areas. It could also provide for convenient tool issue and storage for all major activities.



e. Layout utilizing the *shared space, outer-directed* and *horizontal* design concepts. The layouts isolate only those specific sub-activities such as power tool operations, kiln firings or film development which are clearly incompatible. Other activities share multi-use areas which are easily altered to accommodate changing activity needs. The second layout also employs the *central core* concept with regard to support facilities such as visual control and tool issue. This last layout is the scheme which is further developed in Chapter 5.